

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Energy Corporation of America  
**Well Name/Number:** ECA Foothills 9-H  
**Location:** SE SE Section 14 T6S R17E  
**County:** Stillwater, MT; **Field (or Wildcat)** Wildcat

**Air Quality**

(possible concerns)

Long drilling time: No, 20 to 30 days drilling time.

Unusually deep drilling (high horsepower rig): No, medium depth drilling with a double derrick or a small triple derrick drilling rig. Will drill a single lateral horizontal well to 6179' MD/3890' TVD, Greybull Formation.

Possible H<sub>2</sub>S gas production: No H<sub>2</sub>S anticipated, Greybull Formation at total depth.

In/near Class I air quality area: Near to a Class I air quality area, the Custer National Forest, about 1.1 miles to the south from this location.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: No special concerns – using a small triple or double derrick drilling rig. Will drill a single lateral horizontal well to 6179' MD/3890' TVD, Greybull Formation. Associated gas can be flared under Board Rule 36.22.1220.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary to Morris Creek, about 3/8 of a mile to the southeast from this location.

Water well contamination: No, closest water well is about 3/8 of a mile to the north and about 7/16 of a mile to the northeast from this location. Depth of these freshwater wells are 90'. Surface casing hole will be drilled with freshwater/freshwater drilling fluids to 452'. Steel surface casing will be run and cemented to surface from 452'. Main hole will be drilled with freshwater and freshwater mud to 6179' MD/3890' TVD.

Porous/permeable soils: Yes, gravelly rocky clay soils.

Class I stream drainage: Morris Creek may be a Class I stream.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☒ **Off-site disposal of liquids (in approved facility) Oilfield Disposal**

**Services in Wyoming.**

☒ Other: Cuttings pit liner will be a 20 mil thickness impermeable liner.

Comments: 452' of steel surface casing cemented to surface adequate will adequately protect freshwater zones. Also, fresh water mud system to be used to drill surface hole, rule 36.22.1001. Production casing will be cemented. Reserve pit is proposed to be lined with a 20 mil synthetic liner. Cuttings will be buried in the lined pit after drying.

### Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: Yes, will cross Morris Creek over existing bridge. No other streams to be crossed.

High erosion potential: Yes, possible high erosion potential on cut and fill slopes required moderate cut up to 20.0' and moderate fill, up to 24.5', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a large wellsite, 300'X375' location size required.

Damage to improvements: Slight, surface use appears to be a forest.

Conflict with existing land use/values: None.

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☐ Other: \_\_\_\_\_

Comments: Access will be over existing county road, East Rosebud Road and existing ranch/well access road. Cuttings will be disposed of in the lined reserve pit. Drilling fluids will either be evaporated or trucked to a commercial SWD in Wyoming. Pit will be backfilled when dry. No special concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences about 2.125 miles to the northeast from this location. The town of Rosco, Montana is about 5.25 miles to the northeast from this location. About 1.1 miles to the south and 2.75 miles west of this wellsite location is the Custer National Forest boundary.

Possibility of H2S: None, Cretaceous Greybull Formation at total depth.

Size of rig/length of drilling time: Double derrick or small triple derrick drilling rig/short amount of drilling time, estimate 20 to 30 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: \_\_\_\_\_

Comments: Operational BOP (3,000 psig Annular or Double Ram) rule 36.22.1014 and adequate surface casing should mitigate any problems. Formations to

be drilled are characteristically non H2S bearing. Distance to residences sufficient not to create a noise problem. No concerns.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: Custer National Forest boundary is about 1.1 miles to the south and 2.75 miles west of this wellsite location.

Creation of new access to wildlife habitat: No, all surface access is private land controlled. Existing access roads were constructed for previous oil wells.

Conflict with game range/refuge management: None. No game range/refuge nearby.

Threatened or endangered Species: Threatened or endangered species listed are the Canada Lynx, Black-footed Ferret and Grizzly Bear. Species of Concern are the Greater Sage Grouse, Sprague's Pipit, Wolverine and White-bark Pine for Stillwater and Carbon Counties on the Region 6 USFWS website. NH Tracker website lists six( 6) species of concern: Wolverine, Hoary Bat, Canada Lynx, Fringed Myotis, Grizzly Bear and Yellowstone Cutthroat Trout.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: \_\_\_\_\_

Comments: Private surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: \_\_\_\_\_

Comments: Drilling location is on private surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns, wildcat well.

### Remarks or Special Concerns for this site

Well is a single lateral horizontal well to be drilled to 6179'MD/3890' TVD in the Cretaceous Greybull Sandstone Formation.

### Summary: Evaluation of Impacts and Cumulative effects

No significant impacts or cumulative effects are expected from the drilling of this test well. No long term impacts expected, since the drilling of this well would take a maximum of 30 days and the completion and testing phase if productive another 20 days. Some short term impacts will occur, but can be mitigated in a short time.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki  
(title:) Chief Field Inspector  
Date: June 8, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center  
(Name and Agency)  
Stillwater and Carbon County water wells.  
(subject discussed)  
June 8, 2013  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES  
MONTANA COUNTIES, Stillwater County  
(subject discussed)  
June 8, 2013  
(date)

Montana Natural Heritage Program Website (FWP)  
(Name and Agency)  
Heritage State Rank= S1, S2, S3, T6S R17E  
(subject discussed)  
June 8, 2013  
(date)

Montana Cadastral Website  
(Name and Agency)  
Surface Ownership and surface use Section 14 T6S R17E

(subject discussed)

June 8, 2013  
(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_